

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended): A method for making cartilage tissue which comprises:
(a) two-dimensionally culturing bone marrow mesenchymal cells to confluence and,
(b) subculturing the cells from the confluent two-dimensional culture to three-
dimensional culture,
(c) three-dimensionally culturing the cells in a simulated microgravity environment with
the use of a uniaxial rotary bioreactor that realizes a simulated microgravity environment on the
earth by compensating the ground gravity with the stress resulting from controlled rotation
speed, and
(d) obtaining cartilage tissue expressing Type II collagen.
2. (original): The method according to claim 1, wherein the simulated microgravity
environment provides gravity that is 1/10 to 1/100 of the ground gravity to an object on a time-
average basis.
3. (previously presented): The method according to claim 1, wherein the simulated
microgravity environment provides gravity that is 1/10 to 1/100 of the ground gravity to an
object by compensating the ground gravity with the stress resulting from controlled rotation
speed.
4. (canceled).

5. (previously presented): The method according to claim 1, wherein the bioreactor that realizes a simulated microgravity environment on the ground is a Rotating Wall Vessel (RWV) bioreactor.

6. (previously presented): The method according to claim 5, wherein culture is conducted by seeding bone marrow cells at a density of 10^6 to 10^7 cells/cm³ at a rotation speed of 8.5 to 25 rpm when a 5 cm in diameter RWV vessel is used.

7. (previously presented): The method according to claim 1, wherein culture is conducted by adding TGF- β and/or dexamethasone to a culture medium.

8. (canceled).

9. (previously presented): The method according to claim 1, wherein the bone marrow mesenchymal cells are isolated from a subject in need of transplantation of the cartilage tissue.

10. (previously presented): The method according to claim 1, wherein the cartilage tissue has a major axis of 1 cm or more.

11. (previously presented): The method according to claim 1, wherein the rotation speed is adjusted to synchronize with the sinking speed of the seeded cells to minimize the influence of the ground gravity on the cells.